

CLAIMS

What is claimed is:

1. A method of treatment comprising using an IP System to reposition or reorient at least one tooth of a patient.
- 5 2. The method of claim 1 comprising using IP Diagnosis Software to specify an IP Appliance Set for the patient, using IP Ordering Software to order the specified IP Appliance Set, and using the specified and ordered IP Appliance Set to reposition or reorient at least one tooth of the patient.
- 10 3. The method of claim 2 further comprising using an IP Band Fitting Kit in conjunction with the IP Diagnosis Software to specify the IP Appliance Set.
4. The method of claim 2 further comprising using an IP Bracket Set to replace a bracket of the IP Appliance Set.
5. The method of claim 2 further comprising using a GMPOI Holder to position a bracket of the IP Appliance Set on a tooth of the patient.
- 15 6. An apparatus comprising:
a handle;
a pair of opposed gripping members, each member comprising a gripping surface,
each gripping surface comprising a forward edge;
a GMPOI positioned between the handle and the forward edges.
- 20 7. The apparatus of claim 6 wherein the GMPOI extends above or below the gripping surfaces.
8. The apparatus of claim 6 wherein the GMPOI extends above or below the handle.
9. The apparatus of claim 6 wherein the GMPOI is positioned within 0.5 inches from the forward edges.

10. The apparatus of claim 6 wherein the gripping edges are coplanar, and the GMPOI is an elongated planar member the plane of which is perpendicular to the plane of the gripping edges
11. The apparatus of claim 6 wherein the apparatus comprises a height gauge.
- 5 12. The apparatus of claim 11 wherein the height gauge comprises first and second parallel planar members separated by a fixed distance and extending outward from the apparatus with the first parallel planar member being substantially longer than the second parallel planar member, the shorter planar member comprising a wire loop.
- 10 13. The apparatus of claim 12 wherein the gripping edges are coplanar, and the GMPOI is an elongated planar member the plane of which is perpendicular to the plane of the gripping edges, and is parallel to or coplanar with the planar members of the height gauge.
14. The apparatus of claim 6 wherein the apparatus is one of a set of apparatus, each apparatus of the set comprising a height gauge that corresponds to a prescribed
15 bracket height for a particular tooth of a particular patient.
15. The apparatus of claim 6 wherein the apparatus is one of a plurality of apparatus wherein each apparatus comprises a bracket gripped by the pair of opposed gripping members.
- 20 16. A method of coupling an orthodontic bracket to a tooth comprising:
providing a bracket holder;
utilizing the bracket holder to place a bracket on a tooth;
inserting a portion of the bracket holder into the bracket; and
rotating the bracket holder so as to rotate the bracket.
- 25 17. The method of claim 16 wherein the portion of the bracket holder inserted into the bracket is part of a height gauge.
18. The method of claim 16 wherein the portion of the bracket holder inserted into the bracket is part of a GMPOI.

19. A method of coupling an orthodontic bracket to a tooth comprising:
providing a bracket holder comprising a gripping member position and orientation
indicator (GMPOI);
utilizing the bracket holder to grip a bracket and to place the bracket on a tooth; and
5 while viewing the position and orientation of the GMPOI relative to the tooth on
which the bracket is being mounted, rotating and/or moving the bracket holder
so as to set the orientation and position of the bracket.
20. The method of claim 19 further comprising:
subsequently causing the bracket holder to release the bracket;
10 inserting a portion of the bracket holder into the bracket; and
rotating the bracket holder so as to rotate the bracket.
21. The method of claim 20 wherein the portion of the bracket holder inserted into the
bracket is part of a height gauge.
22. The method of claim 21 wherein the portion of the bracket holder inserted into the
15 bracket is part of the GMPOI.
23. A method of coupling a plurality of orthodontic brackets to a plurality of teeth
comprising:
providing a plurality of bracket holders, each holder having a grasping member
adapted to receive and hold a bracket;
20 providing a plurality of brackets; and
prior to coupling any one of the brackets to a tooth, causing each bracket holder to
receive and hold a bracket.
24. The method of claim 23 further comprising, prior to coupling any one of the brackets
to a tooth, arranging the bracket holders in an order at least partially dependent on the
25 order in which the brackets are to be installed, or at least partially dependent on the
relative positions of the teeth to which the brackets are to be coupled.
25. A method of selecting an archwire for a patient comprising:
obtaining a representation of the patient's inner arch curve (PIAC);
selecting an archwire shape based at least partially on the PIAC representation; and

selecting an archwire to be used based on the selected archwire shape.

26. The method of claim 25 wherein selecting an archwire shape comprises providing a translucent or transparent sheet bearing a representation of an archwire, and attempting to superimpose the archwire representation on the PIAC representation.

5 27. The method of claim 25 wherein obtaining the PIAC representation comprises obtaining an image of the patient's teeth and arch, and selecting an archwire shape comprises viewing at least a portion of the image through the translucent or transparent sheet.

10 28. The method of claim 25 wherein obtaining the PIAC representation comprises obtaining a study model of the patient's teeth and arch, and selecting an archwire shape comprises viewing at least a portion of the study model through the translucent or transparent sheet.

15 29. The method of claim 25 further comprising selecting an initial archwire size based at least partially on the PIAC representation, and wherein selecting an archwire comprises selecting an archwire to be used based on the selected archwire shape and selected initial archwire size.

20 30. The method of claim 29 further comprising selecting a final archwire size after considering something other than the PIAC representation, and wherein selecting an archwire comprises selecting an archwire to be used based on the selected archwire shape and selected final archwire size.

30. An archwire selection aid comprising a translucent or transparent sheet bearing one or more representations of archwires.

25 31. An automated system for selecting an archwire for a patient comprising:
a patient internal arch curve recorder adapted to obtain a representation of the
patient's internal arch curve;
data on available archwires;

a mechanism adapted to compare an obtained representation of a patient's internal arch curve with the data on available archwires and to identify an archwire based on any such comparison.

32. The system of claim 31 wherein the system further comprises data relating to the current position, orientation, shape and/or size of the patient's teeth.

33. The system of claim 31 wherein the system further comprises an input mechanism adapted to accept a treatment diagnosis.

34. The system of claim 33 wherein the mechanism adapted to compare an obtained representation of a patient's internal arch curve with data on available archwires is also adapted to utilize any input treatment diagnosis in identifying an archwire.

35. The system of claim 31 wherein the system comprises a communications mechanism adapted to communicate to an archwire supplier that the identified archwire is to be provided to a user of the system.

36. The method of claim 31 wherein the patient internal arch curve recorder comprises a means for obtaining an electronic representation of at least a portion of a study model or image.

37. The method of claim 36 wherein the patient internal arch curve recorder comprises a digital camera or scanner.

38. The method of claim 31 wherein the data on available archwires comprises data on archwires comprising one of at least three different shapes.

39. The method of claim 38 wherein the data on available archwires comprises data on at least two archwires having the same shape wherein one of the archwires is adapted for use in a non-extraction treatment plan and another of the archwires is adapted for use in an extraction treatment plan.

40. An automated system for selecting and ordering an archwire for a patient comprising: means for selecting an archwire from a plurality of available archwires; and means for ordering the selected archwire from an archwire supplier; wherein

the selection of an archwire is based, at least in part, on all of the following factors:
the patient's jawbone structure;
a dentist's preferred treatment option; and
the sizes and shapes of available archwires.

- 5 41. A method of orthodontic treatment comprising:
specifying an initial orthodontic treatment plan to be applied to a patient where the
patient has teeth, each of the patient's teeth has a position and an orientation,
and the treatment is designed to modify either or both the position and
orientation of at least one of the patient's teeth;
10 identifying each tooth that will have an undesired orientation upon completion of the
initial treatment plan;
modifying the initial treatment plan to change the orientations that the identified teeth
will have upon completion of the treatment plan.
- 15 42. The method of claim 41 wherein identifying each tooth that will have an undesired
orientation upon completion of the initial treatment is accomplished through the use
of automated methods.
- 20 43. The method of claim 42 wherein the automated methods utilize the initial treatment
plan in addition to the current positions and orientations of the patient's teeth to
identify each tooth that will have an undesired orientation upon completion of the
initial treatment.
- 25 44. The method of claim 45 wherein at least some of the identified teeth do not currently
have undesired orientations.
45. The method of claim 41 wherein identifying each tooth that will have an undesired
orientation upon completion of the initial treatment plan involves identifying teeth
that currently have undesired orientations.
46. The method of claim 45 wherein identifying teeth that currently have undesired
orientations comprises identifying each tooth that has a mesial or distal rotation.

47. The method of claim 46 wherein identifying each tooth that has a mesial or distal rotation comprises first identifying a shaped archwire to be used in treatment, and then determining whether the mesial or distal surface of a particular tooth would be farthest from the archwire if the archwire were positioned adjacent to the patient's teeth.
48. The method of claim 41 wherein modifying the initial treatment plan to change the orientations that the identified teeth will have upon completion of the treatment plan comprises changing the orientations of the identified teeth during initial treatment and maintaining the orientations of the identified teeth during subsequent treatment.
49. The method of claim 48 wherein the length of the period during which the orientations of the identified teeth are maintained is at least X% of the length of the period during which the orientations were changed where X is one of 75, 50, 25, and 10.
50. The method of claim 41 wherein modifying the initial treatment plane comprises identifying one or more MS1 brackets for use in treatment.
51. An orthodontic bracket adapted to apply torque to a tooth when coupled to a shaped archwire, the bracket comprising a visual indicator that indicates the type of torque it is adapted to provide.
52. The bracket of claim 51 wherein the indicator indicates a set of teeth the bracket is adapted to be used on, and the set comprises teeth in one of the upper right, upper left, lower right, and lower left quadrants of a patients mouth.
53. The bracket of 51 wherein the indicator comprises one or more colored dots painted on the bracket.
54. The bracket of 53 wherein the bracket comprises tie wings and the dots are painted on the tie wings.

55. The bracket of 51 wherein the indicator indicates that the bracket comprises one or more of the following: mesial rotation, distal rotation, lingual rotation, labial rotation, mesial angulation, and distal angulation.
56. The bracket of 51 wherein the bracket is an MS1 bracket.
- 5 57. A bracket comprising mesial or distal rotation, and at least one of the following: lingual rotation, labial rotation, mesial angulation, and distal angulation.
58. A set of brackets comprising at least X MS1 brackets where X is 1, 5, 10, and 30.
59. A method of orthodontic treatment comprising utilizing an orthodontic bracket on a tooth wherein the bracket is adapted to overcorrect the orientation of the tooth.
- 10 60. The method of 59 wherein the bracket is adapted to provide 4 degrees of overcorrection.
61. A bracket assembly comprising a bracket having an archwire receiving slot and slot modifying member inserted into the slot.
62. The assembly of claim 61 wherein the bracket is a ceramic bracket having a contoured
15 base adapted to couple the bracket to a tooth.
63. The assembly of claim 62 wherein the base comprises one or more indentations adapted to decrease the amount of surface area in contact with a tooth when the base is coupled to a tooth.
64. A device substantially as shown and described.
- 20 65. A method substantially as shown and described.